

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION**

VLSI TECHNOLOGY LLC,
Plaintiff

-v-

INTEL CORPORATION,
Defendant

A-19-CV-00977-ADA

**ORDER GRANTING INTEL'S MOTION FOR SUMMARY JUDGMENT OF
NO INFRINGEMENT AND/OR NO DAMAGES FOR CLAIMS 1, 2, 4, 17, 19, AND 20 OF
U.S. PATENT NO. 7,793,025**

Before the Court is Defendant Intel Corporation’s Motion for Summary Judgment of No Infringement and/or No Damages for Claims 1, 2, 4, 17, 19, and 20 of U.S. Patent No. 7,793,025, which was filed on October 8, 2020. ECF No. 260 (“Opening”). Plaintiff VLSI Technology LLC filed its response on October 22, 2020. ECF No. 329. Defendant filed its reply brief on October 30, 2020. ECF No. 329. The Court heard oral argument regarding this motion on March 24, 2022, during which the Court orally granted Defendant’s motion with respect to chips used in machines that run the Linux operating system, but denied with respect to non-Linux machines. Mar. 24, 2022 Hrg. Tr. at 144:9–12. This Order provides the Court’s reasoning for partially granting Defendant’s motion, but does not change the Court’s decision at the hearing.

I. LEGAL STANDARD

Summary judgment is appropriate “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *Tolan v. Cotton*, 134 S. Ct. 1861, 1866 (2014). A material fact is one that is likely to reasonably affect the outcome of the case. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248

(1986). An issue is not genuine if the trier of fact could not, after an examination of the record, rationally find for the non-moving party. *Matsushita Elec. Indus., Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986). As such, the burden of demonstrating that no genuine dispute of material fact exists lies with the party moving for summary judgment. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

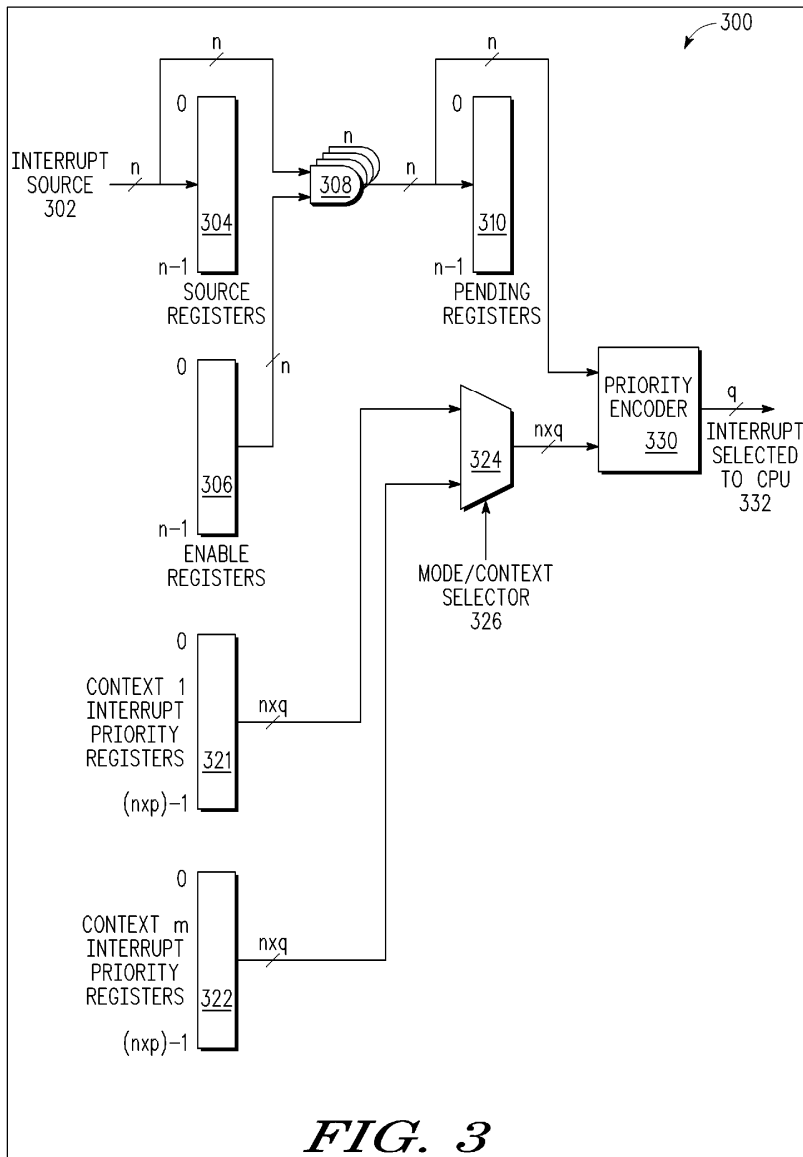
Once presented, a court must view the movant's evidence and all factual inferences from such evidence in a light most favorable to the party opposing summary judgment. *Impossible Elecs. Techniques v. Wackenhut Protective Sys., Inc.*, 669 F.2d 1026, 1031 (5th Cir. 1982). Accordingly, the simple fact that the court believes that the non-moving party will be unsuccessful at trial is insufficient reason to grant summary judgment in favor of the movant. *Jones v. Geophysical Co.*, 669 F.2d 280, 283 (5th Cir. 1982). However, "[w]hen opposing parties tell two different stories, but one of which is blatantly contradicted by the record, so that no reasonable jury could believe it, a court should not adopt that version of the facts for the purposes of ruling on a motion for summary judgment." *Scott v. Harris*, 550 U.S. 372, 380–81 (2007).

Once the court determines that the movant has presented sufficient evidence that no genuine dispute of material fact exists, the burden of production shifts to the party opposing summary judgment. *Matsushita*, 475 U.S. at 586. The non-moving party must demonstrate a genuinely disputed fact by citing to parts of materials in the record, such as affidavits, declarations, stipulations, admissions, interrogatory answers, or other materials; or by showing that the materials cited by the movant do not establish the absence of a genuine dispute. Fed. R. Civ. P. 56(c)(1)(A)–(B). "Conclusory allegations unsupported by concrete and particular facts will not prevent an award of summary judgment." *Duffy v. Leading Edge Prods.*, 44 F.3d 308, 312 (5th Cir. 1995).

II. BACKGROUND

A. Description of the claimed invention

The '025 Patent describes an improved interrupt controller that “adaptively prioritize[s] interrupts based on the current mode or context of a corresponding processor.” '025 Patent at 2:48–50. Figure 3 depicts an exemplary embodiment. *Id.* at 2:37–39. Figure 3 depicts m interrupt priority registers (context interrupt priority registers 321 and 322) for m contexts. *Id.* at 7:11–12.



The m context interrupt priority registers store “different sets of priority level assignments.” *Id.* at 7:55–56. The outputs of the m context interrupt priority registers are inputted into multiplexor 324, which uses mode/context selector 326 to select between the m context interrupt priority registers. *Id.* at 7:61–67. The output of multiplexor 324 is inputted into priority encoder 330, which uses the priority information from one of the m context interrupt priority registers to select and forward one of the pending interrupts to the CPU. *Id.* at 8:13–18. Using m context interrupt priority registers, multiplexor 324, and mode/context selector 326, allows “interrupt priority levels to change ‘on the fly’ based on the mode or context of the system.” *Id.* at 7:55–57.

B. Description of the accused products

Plaintiff accuses Defendant’s “Power Aware Interrupt Routing” (“PAIR”) feature within the Ivy Bridge, Haswell, Broadwell, Skylake, Kaby Lake, Coffee Lake, Comet Lake, Whiskey Lake, and Amber Lake products of infringing the ’025 Patent. Opening at 1. Plaintiff contends that the PAIR feature infringes method Claims 1, 2, 4, 17, 19, and 20. *Id.* Plaintiff seeks six years of back damages prior to the filing of the instant lawsuit. *Id.*

III. ANALYSIS

A. The Parties’ Arguments

Defendant contends that there is no evidence that it or its customers practiced the claimed methods within the United States. Opening at 1. Defendant reasons that PAIR is disabled by default and there is no evidence that PAIR was ever used, apart from Plaintiff’s own testing. *Id.* Defendant contends that a customer must affirmatively enable PAIR by changing the Basic Input/Output System (“BIOS”) settings. Opening at 2 (citing Opening, Ex. 69 [Jahagirdar Dep.]

501:5–14 (“[I]f no changes were done by an OEM customer, the PAIR feature would remain off or turned off.”), Ex. 70 [Jenkins Dep.] 225:18-23 (“Q. What would a customer have to have done to use the PAIR feature in Ivy Bridge? A. They would specifically have had to enable it in the BIOS.”).

Defendant contends that Plaintiff’s expert did not dispute “that PAIR is disabled by default in all accused products” nor did he “identify any customer who enabled PAIR.” Opening at 2. Defendant further contends that, apart from a few machines in Plaintiff’s control, Plaintiff’s expert admits that he was unaware of any other machines in which PAIR is enabled. *Id.* at 4.

Defendant contends that Plaintiff’s expert mistakenly relies on Defendant’s testing of the PAIR feature as an act of infringement. Opening at 4. Defendant contends that any testing it conducted occurred prior to the damages period and/or outside of the United States. *Id.*

In its response, Plaintiff makes three arguments why there is evidence that the method claims of the ’025 Patent were practiced in the United States during the damages period. Response at 2–8. First, Plaintiff contends that PAIR is enabled by default in the BIOS. *Id.* at 2. In particular, Plaintiff contends that “all of the actual BIOS code in the record shows that PAIR is not ‘disabled by default’ as [Defendant] claims, but is in fact enabled by default.” *Id.* at 2–3 (citing Plaintiff’s Expert (Dr. Baker) testimony and declaration). Plaintiff contends that Defendant has not produced any evidence that the produced BIOS reference is not enabled by default. *Id.* at 3.

Plaintiff further contends that it also tested several machines and that “**every single machine** that VLSI’s experts tested in relation to the ’025 Patent had PAIR enabled by default.” *Id.* 3–4 (citing Plaintiff’s expert testimony). Plaintiff contends that the tested machines are “representative of what machines purchased by end users would have enabled.” *Id.* at 4. Plaintiff further contends that “a publicly available Chromebook BIOS that is maintained in part by Intel

itself indicates PAIR is enabled.” *Id.* (citing Response, Ex. 54 (Chromebook BIOS source code)). Plaintiff further contends that “Intel’s own BIOS Writer’s Guides, which Intel represents show that PAIR is disabled by default, instructs BIOS writers to enable PAIR.” *Id.* (citing Response, Ex. 55 at 469–70).

Second, Plaintiff contends that millions of users practice the asserted claims. *Id.* at 4–6. More specifically, Plaintiff contends that because “redirectable interrupts [] are generated frequently in ordinary user experience” and because “every time redirectable interrupts are generated, PAIR is used[,]” millions of users have practiced the method claims. *Id.* at 5 (internal quotation marks omitted). Plaintiff further reasons contends that the “Federal Circuit has been very clear that where a feature is present in products that are widely sold and widely used, those facts alone support a finding that the patent was practiced.” *Id.* (citing *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1318 (Fed. Cir. 2009); *Tinnus Enter., LLC v. Telebrands Corp.*, 846 F.3d 1190, 1204 (Fed. Cir. 2017); *Interwoven, Inc. v. Vertical Computer Sys.*, No. CV 10–04645 RS, 2014 WL 490996, *3–*4 (N.D. Cal. Feb. 3, 2014)).

Third, Plaintiff contends that Defendant practices the asserted claims. *Id.* at 6–8. More specifically, Plaintiff contends that Defendant practices the claimed method claims in the course of testing the accused products for functional correctness. *Id.* at 6.

Plaintiff finally contends that because PAIR operates in materially the same way on each of the accused products, the Court should not grant partial summary judgment with respect to any accused products that Plaintiff did not test. *Id.* at 8.

In its reply, Defendant contends that Plaintiff cannot prove infringement of the ’025 Patent because there is no evidence that Defendant or third parties actually used PAIR during the damages period. Reply at 1–5. Defendant argues that Plaintiff has instead only identified use by its own

attorneys and experts, which does not constitute an infringing use. *Id.* (citing *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007)).

First, Defendant contends that Plaintiff does not identify specific instances of third parties using PAIR. Reply at 1. More specifically, Defendant contends that it “disables PAIR by default in the accused microprocessor products it sells and allows OEM customers to decide whether to enable PAIR in their products (*e.g.*, desktops, laptops) through BIOS settings.”¹ *Id.* Defendant contends that in order for millions of users to practice the asserted method claims as Plaintiff asserts would require that Defendant’s OEM customers “choose to enable PAIR.” *Id.* at 4. But Defendant contends that—apart from the computers Plaintiff’s attorneys and experts tested—Plaintiff has not provided evidence of anyone using a computer with PAIR enabled. *Id.* By contrast, Defendant contends that one OEM—Apple—disabled PAIR. *Id.* at 2 n.5. Defendant further contends that Plaintiff’s expert admitted he was unaware of any other computer in which PAIR was enabled and that he did not conduct a survey regarding how often PAIR is enabled by Intel’s OEM customers. *Id.* Defendant contends that the lack of a survey parallels the facts in *Acco Brands* where the Federal Circuit held that “ACCO proffered no witness testimony of actual Belkin key lock users, or surveys of Belkin’s customers, that would indicate that a user, aside from the expert retained for this particular litigation, directly infringed the ’989 patent.” *Id.*; 501 F.3d at 1313.

Defendant finally contends that the seven computers Plaintiff identified as having PAIR enabled use Ivy Bridge, Broadwell, Skylake, Kaby Lake, and Comet Lake chips, but Plaintiff has

¹ With respect to Plaintiff’s argument that PAIR is enabled by default, Defendant contends that “[w]hile [Defendant] disagrees with [Plaintiff’s] new assertions, they do not create a genuine dispute of material fact with respect to [Defendant’s] summary judgment motion” because Plaintiff cannot “satisfy the legal requirements for proving infringement of the asserted method claims where the accused feature undisputedly may be enabled or disabled in the accused products.” Reply at 2-3. Defendant distinguishes *Lucent Techs., Inc. v. Gateway, Inc.*, *Tinnus Enterprises, LLC v. Telebrands Corp.*, and *Interwoven, Inc. v. Vertical Computer Systems* based on the fact that those cases “did not involve products in which the accused feature might be disabled.” *Id.* at 3.

not identified any computers that use the accused Haswell, Coffee Lake, Whiskey Lake, and Amber Lake chips that have PAIR enabled. *Id.* With respect to Plaintiff’s argument that PAIR operates in “materially the same way,” Defendant contends that this does not affect whether PAIR is enabled or not in the latter group of chips. *Id.* at 5.

Second, Defendant contends that Plaintiff does not identify specific instances that Defendant used PAIR during the damages period. *Id.* at 5. Defendant contends that it is undisputed that Defendant’s “*tests of PAIR all occurred either before the damages period or outside the United States.*” *Id.* (emphasis in original).

During the hearing, Defendant’s counsel asserted that “there’s also undisputed evidence that Linux computers cannot actually use PAIR, because Linux computers don’t even use the type of interrupt that would need to run through PAIR.” Mar. 24, 2022 Hrg. Tr. at 139:14–17. When asked about Linux computers by the Court, Plaintiff’s counsel responded that “[t]o my knowledge there’s no evidence in the record that any Linux computer was checked and that it was disabled.” *Id.* at 143:21-23.

With respect to Apple, Defendant’s counsel asserted that there is “undisputed evidence in the record that PAIR was never enabled by Apple in any of its computers.” *Id.* 139:11–12. When asked about Apple computers by the Court, Plaintiff’s counsel responded:

I think there was one e-mail that I think one Intel engineer who does not work for Apple said he did not think Apple enabled the PAIR feature. So I don’t think that it’s fair to say that there’s undisputed evidence that Apple didn’t use it. I think it might be more fair to say Intel’s taken a position that they are inferring from circumstantial evidence that Apple didn’t use it.

But this all goes back to the only testing that was done -- and, again, I’d like to keep calling it only checks that were performed all showed PAIR were enabled. There’s no evidence in the record that any Apple computer was checked and PAIR was disabled.

Id. at 143:9–21.

B. The Court's Analysis

Based on the parties' briefs, the evidence presented to the Court, and the applicable law, the Court partially grants Defendant's motion for summary judgment with respect to chips used in machines that run the Linux operating system, but denies with respect to all other machines. Mar. 24, 2002 Hrg. Tr. at 144:9–12.

With respect to Linux, the Court notes that the parties did not provide Linux-specific arguments in the briefing, but rather only raised Linux-specific arguments during the hearing. As stated above, Defendant's position with respect to Linux is that Linux is incapable of using PAIR. Mar. 24, 2022 Hrg. Tr. at 139:14–17 ("Linux computers cannot actually use PAIR, because Linux computers don't even use the type of interrupt that would need to run through PAIR."). When asked by the Court to respond, Plaintiff's counsel merely asserted that there was no evidence in the record that "any Linux computer was checked and that it was disabled," but Plaintiff's counsel did not otherwise address whether it was technically possible for a Linux computer to use PAIR. *Id.* at 143:21-23. Because the only evidence in the record—in the form of counsel's statements during the hearing—is that Linux is technically incapable of using PAIR—the Court **GRANTS** Defendant's motion for summary judgment with respect to Linux machines.

The Court notes its decision is not incompatible with Plaintiff's counsel's statement that there is no evidence that PAIR was disabled in any Linux machine. There is no "genuine dispute as to any material fact" concerning whether Linux is *technically incapable of using PAIR*. Plaintiff's counsel's statement is directed towards a lack of evidence as to whether Linux is disabled, but whether PAIR is enabled or disabled in a Linux machine is irrelevant to whether Linux computers use PAIR-compatible interrupts. For example, suppose PAIR is enabled on a Linux computer. If an interrupt occurred, the Linux computer would not use PAIR because the

interrupt is not compatible with PAIR. Accordingly, the lack of evidence that PAIR is disabled does not create a “genuine dispute as to any material fact” as to whether PAIR is used by Linux machines as the only evidence in the record indicates that Linux interrupts are not compatible with PAIR and thus would not use PAIR.

With respect to the remaining non-Linux, non-Apple machines, the Court finds that there is at least a “genuine dispute as to any material fact” whether end users practiced the claimed methods for at least the following reasons. *First*, Defendant does not appear to directly dispute Plaintiff’s contention that all of the actual BIOS code in the record shows that PAIR is enabled by default. Rather, the Court understands that Defendant’s counterargument is that Plaintiff did not actually identify the “BIOS reference code,” but only identified “a firmware support package boot settings file for Comet Lake that can be used as an input to modify BIOS reference code.” But, based on the Court’s understanding, the exemplary file that Plaintiff identified is effectively the settings file for the BIOS reference code for a specific chip.

Second, in addition to Defendant’s proprietary firmware, there exists publicly available Chromebook BIOS code—that Intel maintains-in-part—indicating PAIR is enabled. Defendant does not appear to rebut or respond to this evidence.

Third, every single machine that Plaintiff’s attorneys and experts tested in relation to the ’025 Patent had PAIR enabled by default. Defendant does not argue that Plaintiff’s attorneys and experts enabled PAIR (which was otherwise disabled by the OEM), but only that (1) use by “patentee’s attorneys and experts does not constitute an infringing use” and (2) that Plaintiff has not provided evidence of anyone using a computer with PAIR enabled. While the Court agrees with Defendant’s former argument, the Court disagrees with the latter. More specifically, there is no evidence—and Defendant does not allege—that PAIR was disabled by the OEM, but enabled

by Plaintiff's attorneys and experts for the purposes of litigation-related testing. As such, in the absence of such evidence, the Court infers that (1) based on the evidence Plaintiff provided, PAIR was enabled in the tested computers by the OEMs, and not by Plaintiff, and (2) the OEMs enabled PAIR for all computers that used the same chips. *Impossible Elecs. Techniques*, 669 F.2d at 1031 (holding that a court must view the movant's evidence and all factual inferences from such evidence in a light most favorable to the party opposing summary judgment).

Because the parties appear to agree that if PAIR is enabled, then it is necessarily practiced,² given the above analysis, the Court finds because there is at least "genuine dispute as to any material fact" sufficient to deny Defendant's motion for summary judgment with respect to non-Linux, non-Apple machines.³

Finally, with respect to Apple machines, the Court likewise concludes there is at least "genuine dispute as to any material fact" sufficient to deny Defendant's motion for summary judgment. While Defendant contends there is "undisputed" evidence Apple did not enable PAIR, during the hearing Plaintiff's counsel contended that the "undisputed" evidence is actually Defendant making a favorable inference from circumstantial evidence. Defendant did not dispute Plaintiff's assertion or provide evidence to the contrary during the hearing. The Court agrees with Plaintiff that the evidence offered is circumstantial and there is a genuine dispute as to whether or not Apple enabled PAIR.

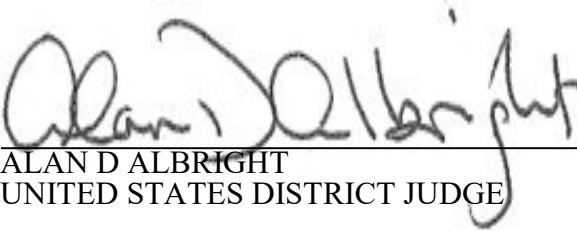
IV. SUMMARY

² PAIR is used every time "redirectable interrupts" are generated. Response at 4–6. The generation of redirectable interrupts frequently occurs in end user's "ordinary" experience. *Id.*

³ To the extent there are any non-Linux, non-Apple machines not specifically analyzed herein, the Court likewise concludes that PAIR was enabled in those machines based on Plaintiff's undisputed contention that the tested machines are representative of what machines purchased by end users, the reasonable inference that OEMs are likely to enable PAIR for untested machines (*i.e.*, not only for the tested machines), and the undisputed fact that Defendant's own BIOS Writer's Guides instructs BIOS writers to enable PAIR.

For the reasons described above, the Court **GRANTS**-in-part Intel's motion for summary judgment of non-infringement with respect to Linux machines and **DENIES**-in-part with respect to non-Linux machines.

SIGNED this 25th day of October, 2022.



ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE